



## PROGRAMME STRUCTURE

### M.Sc. Botany Semester: II

Programme Outcome (PO) -  
For M.Sc. Botany Programme

Students completing M.Sc. Botany course of four semesters will gain thorough knowledge and develop relevant practical skills on different areas of Botany, both the fundamental and traditional aspects as well as the advanced and application oriented aspects such as plant structural and functional diversity and its role in human livelihood, ecological services and human influenced environmental issues, evolution processes resulting the diversified plant groups, their morphological, anatomical, and physiological adaptations to different environmental conditions, plant interactions with microbes and insects, genetic makeup and inheritance of various levels of plants, cell and molecular biology of plants, horticultural crops, physiology, biochemistry, biotechnology, recombinant DNA technology, proteomics and transgenic technology.

Students will develop skills of plant explorations and identifications, herbarium preparation and preservation techniques, nursery establishment and management techniques, principles and methods of biodiversity conservation, microscopy and microtomy, reproduction, genetics, genetic structure of populations, microbiology, molecular biology, identification of various pests and diseases of crop plants and their controlling mechanisms, various analytical techniques, acquaintance with the use of bioinformatics tools and databases and application of statistics to biological data, biotechnological tools and techniques used for mass *in vitro* propagation, genetic transformation of plants, transgenic technology.

By performing practical experiments relevant to the theory papers and taking one elective paper of their choice in each semester and a dissertation course in the fourth semester, students will get trained in experimental design and execution, firsthand experience on tools and techniques of research, quantitative and qualitative data analysis and interpretation of data. By presenting seminars in each semester, students will develop science communication and presentation skills.





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**Syllabus with effect from the Academic Year 2021-2022**

<p>Programme Specific Outcome (PSO) - For MSc Botany Semester - II</p>	<p>Having studied the four prescribed papers, by the end of this semester, students will be able to:</p> <ol style="list-style-type: none"><li>1. Gain adequate knowledge on different kinds of microscopes, working principles and application of different analytical tools and techniques including radioisotopes and biosensors used in biological studies.</li><li>2. Develop the skills to collect scientific data, writing skills of popular and scientific writings.</li><li>3. Understand the significance of professional ethics in scientific research, the types and pitfalls of plagiarism.</li><li>4. Have a fair understanding on local, regional and global ecological issues related to resource distribution, allocation and conflicts between socioeconomic development and conservation of ecosystems.</li><li>5. Develop plant identification skills, undertake field explorations for documentation of flora, preparation and preservation herbarium specimens.</li><li>6. Interpret different principles, updated rules involved in naming plants.</li></ol>
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<p>To Pass</p>	<ol style="list-style-type: none"><li>(1) At least 40% marks in each paper at the University Examination and 40% aggregate marks in Internal and External Assessment.</li><li>(2) At least 33% Marks in each paper in Internal Assessment.</li></ol>
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Course Type	Course Code	Name Of Course	Theory/ Practical	Credit	Exam Duration in hrs	Component of Marks		
						Internal	External	Total
						Total	Total	Total
Core Course	PS02CBOT51	Bioanalytical techniques	T	4	3	30	70	100
	PS02CBOT52	Plant Systematic	T	4	3	30	70	100
	PS02CBOT53	Ecological Principles	T	4	3	30	70	100
	PS02CBOT54	Practical	P	4	3	30	70	100
	PS02CBOT55	Practical	P	4	3	30	70	100
	PS02CBOT56	Viva-Voce	=	1	=	=	50	50
Elective Course (Any One)	PS02EBOT51	Research Ethics and Scientific Writing	T	4	3	30	70	100
	PS02EBOT52	Microtechniques	T	4	3	30	70	100

